

landing zone, of whom 3 with concomitant extra-anatomic debranching of the supra-aortic vessels. Technical success was achieved in 100%. The 30-day mortality rate was 16.7% ($n = 4$). Two patients had paraplegia. Neither stroke nor renal insufficiency requiring new dialysis occurred. During a mean follow-up of 28 months, another death in relation with dissection occurred and 8 patients (33%) required reintervention. All reintervention were managed by endovascular means. At last follow up CT-scan, 8 patients (33%) had complete remodeling of the aortic wall.

Conclusion: This study confirms the feasibility of TEVAR for R-BAD and its lower perioperative morbidity and mortality rate compared to open surgery, reducing by more than 2 third the 30-day mortality. However the rate of reintervention is high and a long term follow up is mandatory.

Dipeptidyl Peptidase-4 Inhibitor Alogliptin Prevents Further Dilatation of Abdominal Aortic Aneurysm Through Anti-oxidant and Anti-inflammatory Effect in Rats

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Introduction: Dipeptidyl peptidase-4 inhibitor alogliptin has been proved to prevent abdominal aortic aneurysm (AAA) formation. However, the mechanism of alogliptin on aneurysm development has not been sufficiently investigated. The objective of this study was to determine how alogliptin prevents further dilation of AAA development mimicking clinical setting.

Methods: The AAA model induced with intraluminal elastase and extraluminal calcium chloride was created in 42 rats. Forty-two rats were divided 3 groups: a low-dose of alogliptin group (Group LD; 1 mg/kg/day), a high-dose group (Group HD; 3 mg/kg/day), and a control group (Group C, water). Alogliptin administration by gastric gavage once per day was started on 7 days after aneurysm formation (Dilatation ratio: $158.9 \pm 7.7\%$). On day 14, reactive oxygen species (ROS) expression and the oxidation product of DNA 8-hydroxydeoxyguanosine (8-OHdG) was measured. As ROS have been reported to activate ERK pathway which is important modulator of MMPs and inflammatory cytokines, MMP expression and inflammatory response were also analyzed along with ERK evaluation. Histopathological examination was performed on day 28, and the AAA dilatation ratio was calculated to evaluate alogliptin protective effect.

Results: On day 14, ROS expression and 8-OHdG positive cells in aneurysm walls were decreased by alogliptin treatment (ROS expression: 4.4 ± 0.6 in Group C, 3.2 ± 0.1 in Group LD, and 2.7 ± 0.3 in Group HD, $p < 0.001$; 8-OHdG-positive cells: 167.4 ± 6.9 cells in Group C, 102.7 ± 19.9 cells in Group LD, and 64.7 ± 2.7 cells in Group HD, $p < 0.001$). Western blot analysis showed decrease ERK levels in treatment groups compared with in control group. The treatment significantly reduced mRNA expression of MMPs, TNF- α and MCP-1 in aneurysm walls. Immunohistochemical staining for CD68 demonstrated the decrease of macrophage infiltration in aneurysm wall with treatment groups. On day 28, the aortic wall in groups LD and HD were less dilated, and had higher elastin content than those in Group C (Dilatation ratio: $199.2 \pm 10.8\%$ in Group C, $170.0 \pm 4.4\%$ in Group LD, and $155.1 \pm 2.3\%$ in Group HD, $p < 0.001$).

Conclusion: Alogliptin treatment starting after aneurysm formation inhibits further dilation in rat model through anti-oxidant and anti-inflammatory effect. Inhibition of ERK activation by reducing oxidative stress prevented inflammatory response and matrix degeneration, resulting in prevention of the aortic dilatation.

High Frequency of AAA in the North of Sweden Not Explained by Higher AAA Prevalence Among Siblings or Smoking

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Introduction: The frequency of Abdominal Aortic Aneurysm (AAA) is higher in the north region of Sweden compared to the south with a 38% higher incidence for AAA in men. Smoking is less common in the north and can subsequently not be responsible for the increased risk. A strong hereditary trait has been suggested as an explanation to the regional differences in disease pattern. Organized screening for AAA in siblings is currently not arranged in either region. Our aim was to investigate if siblings to AAA-patients in the north part of Sweden have a higher prevalence of AAA compared to siblings in the Stockholm region (mid).

Methods: All patients treated for AAA between Jan 2008–Aug 2012 at two hospitals covering a large county of the north were screened for siblings ($n = 483$). The living siblings residing in the north were offered an ultrasound scan of the abdominal aorta preceded by a structured telephone interview regarding health and medications. Ultrasound was performed by one validated examiner using both LELE and OTO-technique. The result of the ultrasound-examination was compared to the previously published results of the prevalence of AAA in siblings in Stockholm (mid Sweden).

Results: 379 siblings were included of which 8 had undergone aortic repair and 8 had a known AAA under surveillance. 363 were screened with ultrasound. The prevalence of AAA in all siblings was 34/379 (10%, brothers 14%, sisters 6%). There was no difference in the prevalence of AAA in siblings from north compared to mid region ($p = 0.75$). Smoking was as common in both regions among siblings with AAA.

Conclusion: Our data do not support a strong hereditary trait for AAA in the north part of Sweden compared to other regions. The results reinforce the importance of developing structured screening protocols for first degree relatives to AAA patients, since the prevalence in siblings is strikingly high as compared to the prevalence of AAA in the general population.

Autologous Alternative Veins Do Not Provide Better Mid-term Outcomes than Prosthetic Conduits for Below Knee Bypass When Great Saphenous Vein is Unavailable

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Introduction: Ipsilateral, single segment great saphenous vein (GSV) remains the optimal conduit for below knee bypass to treat critical limb ischemia. There is a need to better define the benefit of alternative autologous vein (AAV) segments over contemporary prosthetic conduits in patients in whom GSV is not available.

Methods: Patients who underwent bypass to below-knee targets for chronic arterial occlusive disease between 2007–2011 were retrospectively reviewed and categorized in three groups: GSV; AAV (small saphenous veins, arm veins or spliced vein segments); Prosthetic. The primary outcome was graft patency (primary, assisted primary, secondary). Secondary outcome was limb salvage. Cox regression models were used to assess the effect of baseline predictors. Results were considered statistically significant when p -value was < 0.05 .